

# **EXHIBIT D**

# **McGraw-Hill Dictionary of Scientific and Technical Terms**

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On the cover: Photomicrograph of crystals of vitamin B<sub>1</sub>.  
(Dennis Kunkel, University of Hawaii)

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highwall

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signed to prevent breakdown in a circuit operating at high voltages. { 'hī 'vɒltɪj ,ɪn-sə'lā-shən }

**highwall** [MIN ENG] The unexcavated face of exposed overburden and coal or ore in an open-cast mine or the face or bank of the uphill side of a contour strip-mine excavation. { 'hī,wɒl }

**high water** See high tide. { 'hī 'wɒd-ər }

**high-water full and change** [GEOPHYS] The average interval of time between the transit (upper or lower) of the full or new moon and the next high water at a place. Also known as common establishment; vulgar establishment. { 'hī 'wɒd-ər 'fʊl-ən 'tʃɑːnj }

**high-water inequality** [OCEANOGR] The difference between the heights of the two high tides during a tidal day. { 'hī 'wɒd-ər ,ɪn-ə'kwāl-əd-ē }

**high-water line** [OCEANOGR] The intersection of the plane of mean high water with the shore. { 'hī 'wɒd-ər ,līn }

**high-water lunital interval** [GEOPHYS] The interval of time between the transit (upper or lower) of the moon and the next high water at a place. { 'hī 'wɒd-ər 'lūn-ə'tɪd-əl 'ɪn-tər-vəl }

**high-water mark** [COMPUT SCI] The maximum number of jobs that are in a queue awaiting execution by a large computer system during a specified period of observation. { 'hī 'wɒd-ər ,mɑːrk }

**high-water platform** See wave-cut bench. { 'hī 'wɒd-ər 'plɑːt,fɔːm }

**high-water quadrature** [OCEANOGR] The average high-water interval when the moon is at quadrature. { 'hī 'wɒd-ər 'kwɒd-rə-tʃər }

**high-water springs** See mean high-water springs. { 'hī 'wɒd-ər 'sprɪŋz }

**high-water stand** [OCEANOGR] The condition at high tide when there is no change in the height of the water. { 'hī 'wɒd-ər 'stænd }

**highway** [CIV ENG] A public road where traffic has the right to pass and to which owners of adjacent property have access. { 'hī,wə }

**highway engineering** [CIV ENG] A branch of civil engineering dealing with highway planning, location, design, and maintenance. { 'hī,wə ,en-jə'nɪr-ɪŋ }

**Hikojima serotype** [IMMUNOL] An immunologically distinct group of *Vibrio* somatic O antigens. { 'hē-kō'jē-mə 'ser-ə,tɪp }

**hilar** See heavy-ion linear accelerator. { 'hī,lak }

**Hilbert cube** [MATH] The topological space which is the cartesian product of a countable number of copies of *I*, the unit interval. { 'hɪl-bɜːt ,kyʊb }

**Hilbert parallelootope** [MATH] 1. A subset of an infinite-dimensional Hilbert space with coordinates  $x_1, x_2, \dots$ , for which the absolute value of  $x_n$  is equal to or less than  $(1/2)^n$  for each  $n$ . 2. The subset of this space for which the absolute value of  $x_n$  is equal to or less than  $1/n$  for each  $n$ . { 'hɪl-bɜːt ,par-ə'leɪ-ə,tɒp }

**Hilbert-Schmidt theory** [MATH] A body of theorems which investigates the kernel of an integral equation via its eigenfunctions, and then applies these functions to help determine solutions of the equation. { 'hɪl-bɜːt 'shɪt,(t)hē-ə-rē }

**Hilbert space** [MATH] A Banach space which also is an inner-product space with the inner product of a vector with itself being the same as the square of the norm of the vector. { 'hɪl-bɜːt 'speɪs }

**Hilbert's theorem** [MATH] The proposition that the ring of polynomials with coefficients in a commutative Noetherian ring is itself a Noetherian ring. { 'hɪl,bɜːts ,thɪr-əm }

**Hilbert transform** [MATH] The transform of a function  $f(x)$  realized by taking the integral of  $f(x)/(1 + \cot(y-x)/2)dx$ . { 'hɪl-bɜːt ,tranz,fɔːm }

**Hilda group** [ASTRON] A group of asteroids whose periods of revolution about the sun are approximately two-thirds that of Jupiter, and whose motions are in resonance with Jupiter. { 'hɪl-ə ,grʊp }

**Hillebrand function** [THERMO] The heat of vaporization of a compound as a function of the molal concentration of the vapor; it is nearly the same for many compounds. { 'hɪl-brænd ,fʊŋk-shən }

**Hillebrandite** [MINERAL]  $\text{Ca}_8(\text{B}_6\text{O}_{11})_3\text{Cl}_7\cdot\text{H}_2\text{O}$  Colorless mineral composed of hydrous borate and chloride of calcium; occurs in monoclinic domatic crystals. { 'hɪl,gär,dɪt }

**Hilbert linear system** See AR system. { 'hɪl'ɪn-ē-ər ,sɪs-təm }

**Hill** [GEOGR] A land surface feature characterized by strong relief; it is a prominence smaller than a mountain. { 'hɪl }

**hill-and-dale recording** See vertical recording. { 'hɪl ən 'dāl rɪ'kɔːd-ɪŋ }

**hill bandwidth** [ELECTR] The difference between the upper and lower frequencies at which the gain of an amplifier is 3 decibels less than its maximum value. { 'hɪl 'bænd,wɪðth }

**hill-climbing** [MATH] Any numerical procedure for finding the maximum or maxima of a function. [MECH ENG] Adjustment, either continuous or periodic, of a self-regulating system to achieve optimum performance. { 'hɪl ,klɪm-ɪŋ }

**hill creep** [GEOL] Slow gravity movement of rock and soil waste down a steep hillside. Also known as hillside creep. { 'hɪl ,krēp }

**hillebrandite** [MINERAL]  $\text{Ca}_2\text{SiO}_3(\text{OH})_2$  A white mineral composed of hydrous calcium silicate; occurs in masses. { 'hɪl-ə-brænd ,dɪt }

**hillock** [GEOL] A small, low hill. { 'hɪl-ək }

**Hill plot** [BIOCHEM] A graphic representation of the Hill reaction. { 'hɪl ,plət }

**Hill reaction** [BIOCHEM] The release of molecular oxygen by isolated chloroplasts in the presence of a suitable electron receptor, such as ferricyanide. [ORG CHEM] Production of substituted phenylacetic acids by the oxidation of the corresponding alkylbenzene by potassium permanganate in the presence of acetic acid. { 'hɪl rɪ,æk-shən }

**hill shading** [MAP] Also known as hillwork; plastic shading; relief shading; shading. 1. A method of showing relief on a map by simulating shadows by assuming oblique sunlight from the northwest so that slopes facing south and east are shaded. 2. The pictorial effect created by this method. { 'hɪl ,shād-ɪŋ }

**hillside creep** See hill creep. { 'hɪl,sɪd ,krēp }

**hillside quarry** [MIN ENG] A quarry cut along a hillside. { 'hɪl,sɪd ,kwār-ē }

**hillwork** See hill shading. { 'hɪl,wɜːk }

**Hiltner-Hall effect** [ASTRON] The polarization of the light received from distant stars; this effect is thought to take place in interstellar space. { 'hɪlt-nər 'hɒl i,fekt }

**Hilt's law** [GEOL] The law that in a small area the deeper coals are of higher rank than those above them. { 'hɪltz ,lɔː }

**hilum** [ANAT] See hilus. [BOT] Scar on a seed marking the point of detachment from the funiculus. { 'hɪ-ləm }

**hilus** [ANAT] An opening or recess in an organ, usually for passage of a vessel or duct. Also known as hilum. { 'hɪ-ləs }

**Himalia** [ASTRON] A small satellite of Jupiter with a diameter of about 35 miles (56 kilometers), orbiting at a mean distance of  $7.12 \times 10^6$  miles ( $11.46 \times 10^6$  kilometers). Also known as Jupiter VI. { 'hɪ'mæl-ē-ə }

**Himantandraceae** [BOT] A family of dicotyledonous plants in the order Magnoliales characterized by several, uniovulate carpels and laminar stamens. { 'hə'mant-ən'dræs-ē-ē }

**himantoid** [MYCOL] Pertaining to a mycelium arranged in spreading fanlike cords. { 'hə'mant-ē-ōid }

**Himantopterinae** [INV ZOO] A subfamily of lepidopteran insects in the family Zygaenidae including small, brightly colored moths with narrow hindwings, ribbonlike tails, and long hairs covering the body and wings. { 'hə'mant-ō'ter-ə,nē }

**hindbrain** See rhombencephalon. { 'hɪn,breɪn }

**hindered contraction** [MET] Thermal contraction of a casting that is hindered locally due to the particular geometry. { 'hɪn-dərd kən'træk-shən }

**hindered settling** [MIN ENG] Settling of particles in a thick suspension in water through which their fall is hindered by rising water. { 'hɪn-dərd 'set-ɪŋ }

**hindered-settling ratio** [MIN ENG] The ratio of the specific gravity of a mineral to that of the suspension of ore raised to a power between one-half and unity. { 'hɪn-dərd 'set-ɪŋ 'rā-shō }

**hindgut** [EMBRYO] The caudal portion of the embryonic digestive tube in vertebrates. { 'hɪn,gət }

**H indicator** See H scope. { 'æh ,ɪn-də,kād-ər }

**Hindley screw** [DES ENG] An endless screw or worm of hourglass shape that fits a part of the circumference of a worm wheel so as to increase the bearing area and thus diminish wear. Also known as hourglass screw; hourglass worm. { 'hɪnd-lē ,skrʊ }

**hindrance factor** See drag factor. { 'hɪn-drəns ,fak-tər }

**Hind's Nebula** [ASTRON] A reflection nebula illuminated by the star T Tauri that undergoes marked changes in brightness. { 'hɪnz 'neb-yə-lə }

**hinge** [DES ENG] A pair of metal leaves forming a jointed device on which a swinging part turns. { 'hɪŋj }

HILUM



The structure of a mature kidney bean showing the hilum.